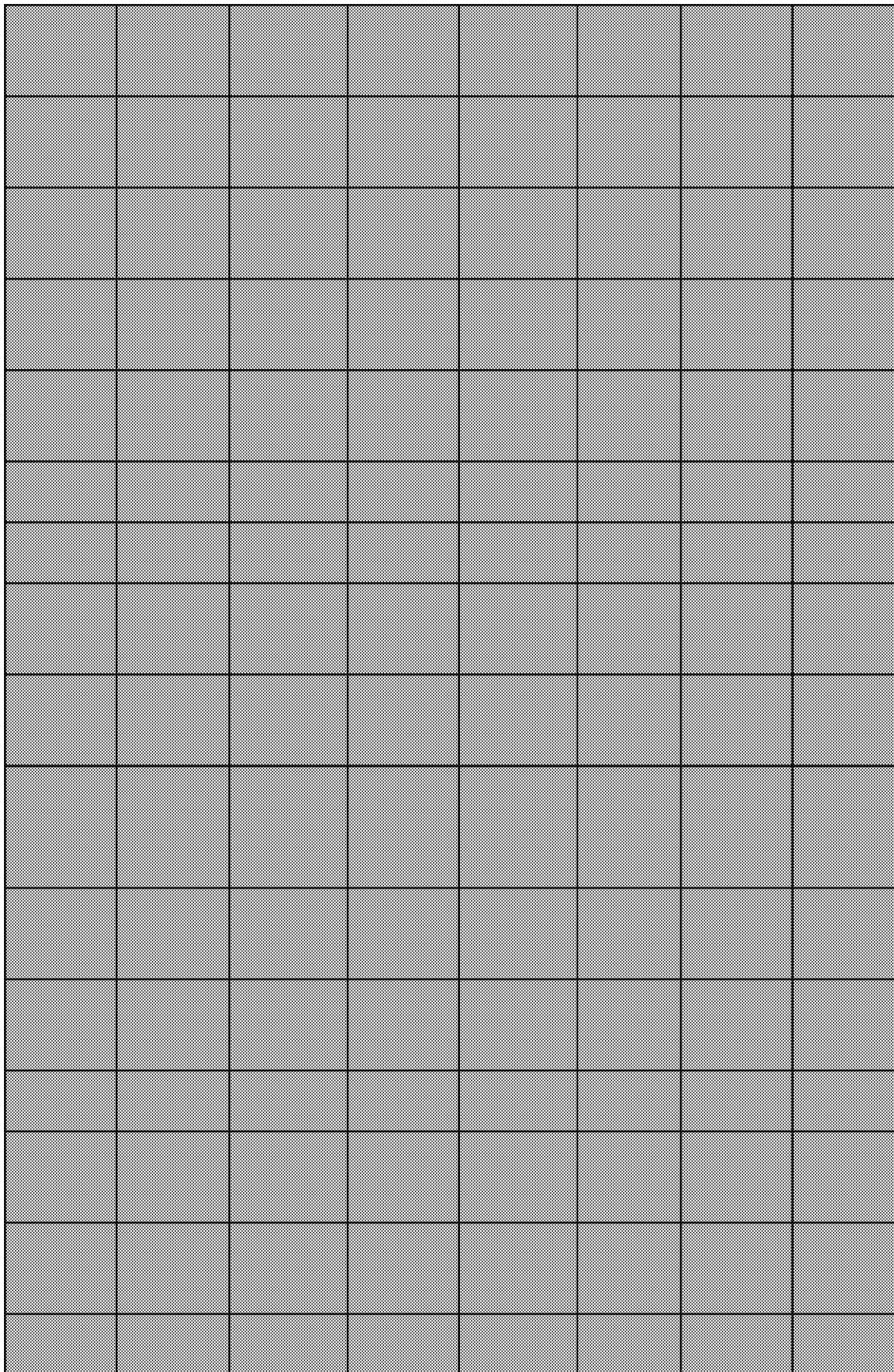


Level 1



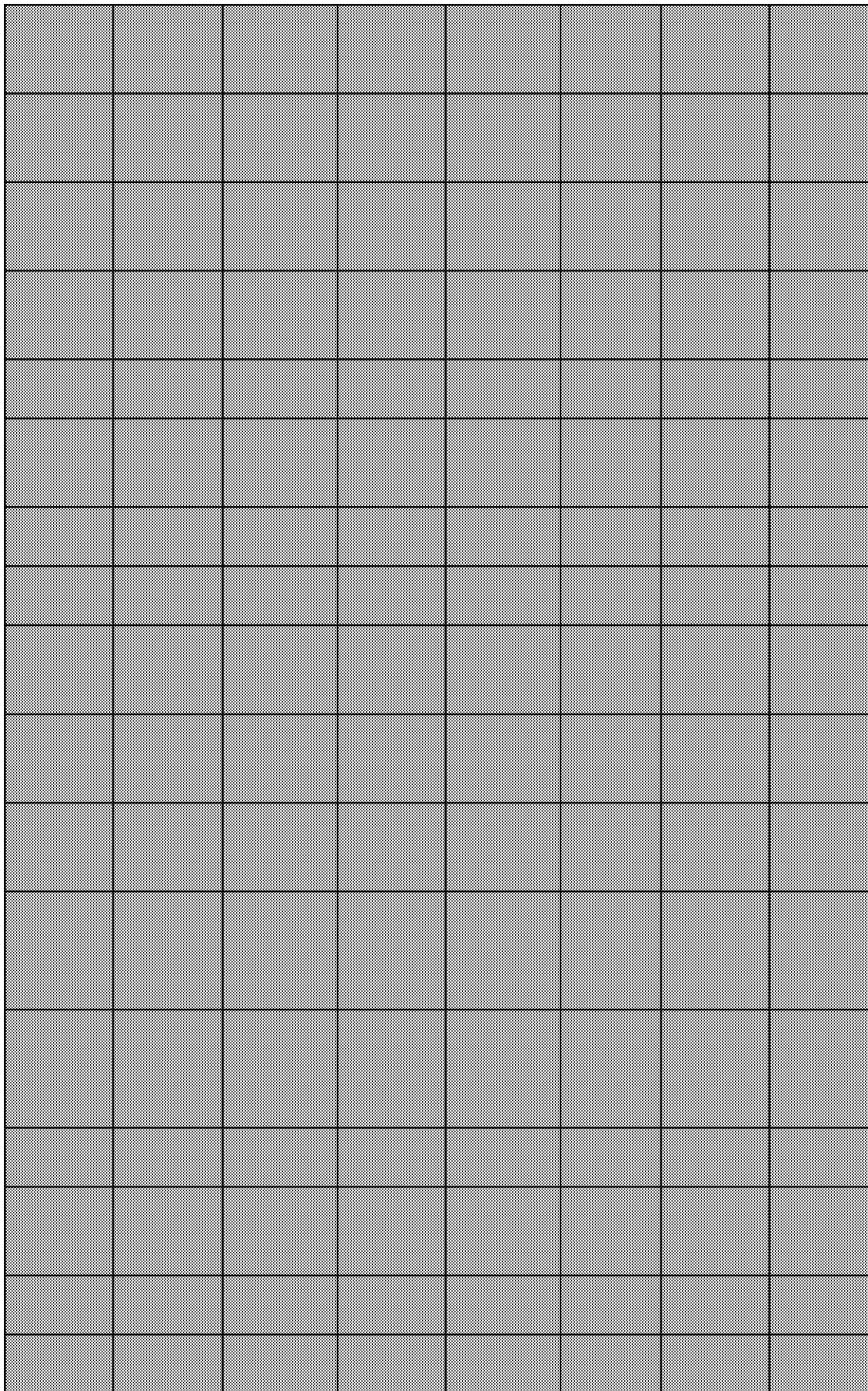
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The phosphoglucomutase (PGM)-encoding gene of <i>Bordetella bronchiseptica</i> is required for lipopolysaccharide (LPS) biosynthesis.
<i>Campylobacter jejuni</i> is a microaerophilic pathogen representing one of the major causes of bacterial enteritis in humans.
<i>Pseudomonas aeruginosa</i> possesses an extensive armament of genes involved in oxidative stress defense, including katB.
<i>Helicobacter pylori</i> possesses two distinct thioredoxin proteins (Trx1 and Trx2) which may play important roles in the ability of the bacterium to survive in the acidic environment of the stomach.
<i>Streptococcus mutans</i> , a Gram-positive organism, is the primary causative agent in the formation of dental caries in humans.
The ctaCIDIEI and ctaCIIDIIIEII gene clusters that encode heme-copper cytochrome oxidases have been characterized in the <i>Chloroflexus aurantiacus</i> genome.
<i>Francisella tularensis</i> is a facultative intracellular bacterium utilizing macrophages as its primary intracellular habitat and replicates within the phagosomes.
Isogenic strains of <i>Escherichia coli</i> that were defective in either of the two major aerobic terminal respiratory oxidases (cyt b/c ₁ and cyt c/b ₂) were used to study the role of each enzyme in the assembly of the electron transport chain.
The Ras-cyclic AMP pathway is connected to other nutrient-regulated signaling pathways and mediates the global stress response.
BACKGROUND: Previous work has shown that the hypersaline-adapted archaeon, <i>Halobacterium salinarum</i> NRC-1, is highly resistant to reactive oxygen species (ROS).
The expression of beta-galactosidase from DNA damage-inducible RNR2-lacZ and RNR3-lacZ fusion constructs was compared in <i>Escherichia coli</i> .
Although oxygen is essential for aerobic organisms, it also forms potentially harmful reactive oxygen species. For its simplest form, oxygen can react with water to produce hydrogen peroxide.
The TenA protein family occurs in prokaryotes, plants and fungi; it has two subfamilies, one (TenA_C) having an active-site cysteine residue.
Sco proteins are found in mitochondria and in a variety of oxidase positive bacteria. Although Sco is required for the formation of superoxide dismutase, it is not required for the formation of catalase.
Peroxiredoxins (Prx) are thiol-dependent antioxidants containing one (1-cysteine [-Cys]) or two (2-Cys) conserved Cys residues.
A survey of 12 genetically distinct, heat-sensitive mutants of <i>Neurospora</i> revealed three (un-1, un-3, and un-17) that are sensitive to heat shock.
The heat shock response is a highly conserved stress response that can transiently inhibit non-heat shock protein gene expression.

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In this issue of Molecular Microbiology, Gu and Imlay show that a class of compounds known as redox-cycling agents dire

BACKGROUND: Hfq is an RNA chaperone protein that has been broadly implicated in sRNA function in bacteria. Here we

The filamentous ascomycete *A. nidulans* produces two major siderophores: it excretes triacetyl fusarinine C to capture iron

We previously demonstrated that conidia from *Aspergillus fumigatus* incubated with menadione and paraquat increases

Sirtuin 6 (SIRT6) is a mammalian homolog of the yeast Sir2 deacetylase. Mice deficient for SIRT6 exhibit genome instability

Appropriate regulation of genes enables *Salmonella typhimurium* to adapt to the intracellular environment of the host. This

To investigate the function of *Escherichia coli* small heat shock proteins, IbpA and IbpB, we constructed ibpA-, ibpB- and i

Small heat-shock proteins are molecular chaperones that bind and prevent aggregation of nonnative proteins. They also

Many intracellular bacterial pathogens possess virulence factors that prevent detection and killing by macrophages. How

We constructed a sodA-disrupted mutant of *Bacillus subtilis* 168, BK1, by homologous recombination. The mutant was no

Erwinia chrysanthemi causes soft-rot disease in a great variety of plants. In addition to the depolymerizing activity of pl

The soxRS regulon protects *Escherichia coli* cells against superoxide and nitric oxide. Oxidation of the SoxR sensor, a [2Fe

The soxRS regulon is activated by redox-cycling drugs such as paraquat and by nitric oxide. The >15 genes of this system i

Lipopolysaccharide (LPS) is a major constituent of the outer membrane of gram-negative bacteria that serves as a barrier

Genomic studies with bacteria have identified redox-responsive genes without known roles in counteracting oxidative da

OmpW of *Salmonella enterica* serovar Typhimurium has been described as a minor porin involved in osmoregulation, an

A genetic response of *Escherichia coli* to nitric oxide or to superoxide-generating agents such as paraquat is controlled by

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